

User Manual

EX0101-XN52-000

EX0101-XN53-000

HDMI over Single Cat5e/6 Cable Extender



Version: V1.0.1



Important Safety Instructions

Note:

In case of any content change, we are sorry for no further notice.

Warning:

To reduce the risk of fire, electric shock or product damage:



1. Do not expose this apparatus to rain, moisture, dripping or splashing and that no objects filled with liquids, such as vases, shall be placed on the apparatus.



6. Clean this apparatus only with dry cloth.



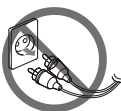
2. Do not install or place this unit in a bookcase, built-in cabinet or in another confined space. Ensure the unit is well ventilated.



7. Unplug this apparatus during lightning storms or when unused for long periods of time.



3. To prevent risk of electric shock or fire hazard due to overheating, do not obstruct the unit's ventilation openings with newspapers, tablecloths, curtains, and similar items.



8. Protect the power cord from being walked on or pinched particularly at plugs.



4. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.



9. Only use attachments / accessories specified by the manufacturer.



5. Do not place sources of naked flames, such as lighted candles, on the unit.



10. Refer all servicing to qualified service personnel.

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Introduction

Overview

EX0101-XN52/XN53-000 is a HDMI extender over single Cat5e/6 cable. It is capable of transmitting full 1080p HD video, HD audio and bi-direction IR control together up to 40 meters.

It features EQ DIP switches on both transmitter and receiver in the event of installation difficulties. Furthermore, it supports one side power supply by using a special Cat5e/6 cable (see **Appendix**), which means as long as either transmitter or receiver is connected to power, the extender still works. The extender provides affordable, high quality HDMI signal transmission solutions for your audio/video and IR control needs.

EX0101-XN52-000



EX0101-XN53-000



Features

- Easy to use, one pair as a full functional module
- Use single Cat5e/6 cable to substitute HDMI cable to achieve signal transmission
- Transmission distance reaches up to 40 meters under the video format of 1080p
- HDMI 1.3a compliant.
- HDMI 1.4 compliant with 3D formats
- Supports HDMI or DVI inputs
- Bi-direction IR control
- With ESD protection inside
- Transfers IR control signal together with the HDMI signal

Package Contents

- 1 x Transmitter EX0101-XN52-000
- 1 x Receiver EX0101-XN53-000
- 2 x 12V 0.5A DC Power Supply
- 4 x Mounting Ear
- 1 x IR Emitter
- 1 x IR Receiver (30-50KHz)

Specifications

Technical	
Data Rate	2.25Gbps Maximum
Maximum Distance	40 meters
I/O Connections	Transmitter 1 x RJ45 port, 1 x HDMI IN, 1 x IR IN, 1 x IR OUT
	Receiver 1 x RJ45 port, 1 x HDMI OUT, 1 x IR IN, 1 x IR OUT
Power Supply	12V 0.5A DC
Power Consumption	5Watts (Max)
Input Video Signal	1.2 volts p-p
Input DDC Signal	5 volts p-p (TTL)
Video Format Supported	DTV/HDTV; 1080P/1080i/720P/576P/480P/576i/480i
Output Video	HDMI 1.3
Output Audio	DTS-HD, Dolby-HD
IR Wavelength & Frequency	Wavelength: 940nm IR Frequency: 38 KHz
Operating Temperature	32°F to 95°F (0°C to 35°C) 10% to 90%, non-condensing

Technical

Storage Temperature	-4°F to 140°F (-20°C to 70°C) 10% to 90%, non-condensing
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General

Dimension (W x H x D)	127mm×17mm×54mm 5" x 0.67" x 2.12"
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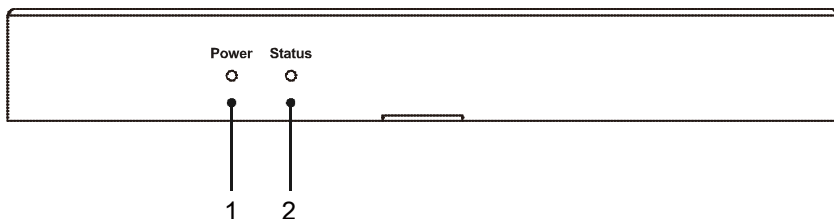
Mass (Main unit)	0.3kg / 1.16lb (Pairs)
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Certification	CE, FCC, RoHS
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Panel

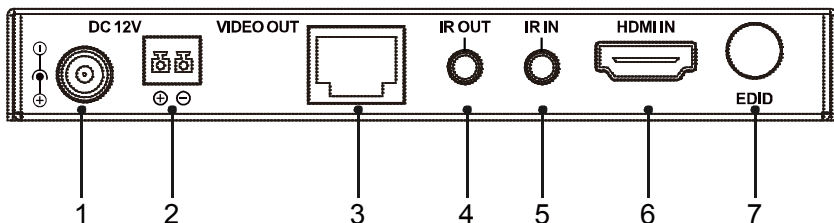
Transmitter EX0101-XN52-000

Front Panel



ID	Name	Description
1	Power	Displays power status
2	Status	Displays signal connection status

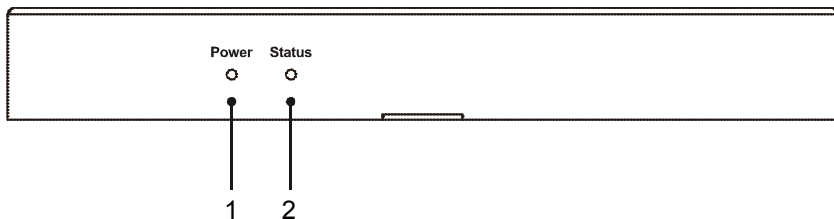
Rear Panel



ID	Name	Description
1	Power 1	12V 0.5A DC power supply input
2	Power 2	Connects to 3.5mm phoenix male connector, 12V 0.5A
3	VIDEO OUT	RJ45 port
4	IR OUT	Connects to an IR emitter
5	IR IN	Connects to an IR receiver (30-50KHz)
6	HDMI IN	Connects to an HDMI source
7	EDID	EDID DIP switch

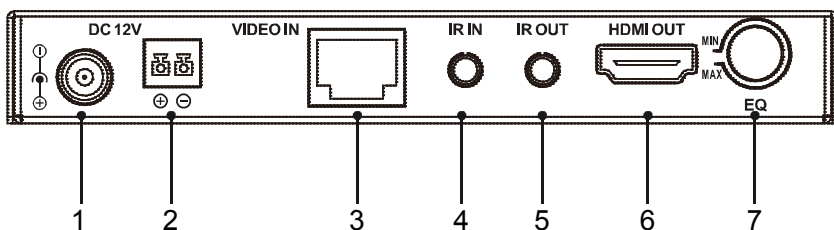
Receiver EX0101-XN53-000

Front Panel



ID	Name	Description
1	Power	Displays power status
2	Status	Displays HDMI signal status, this indicator is on if there is HDMI signal

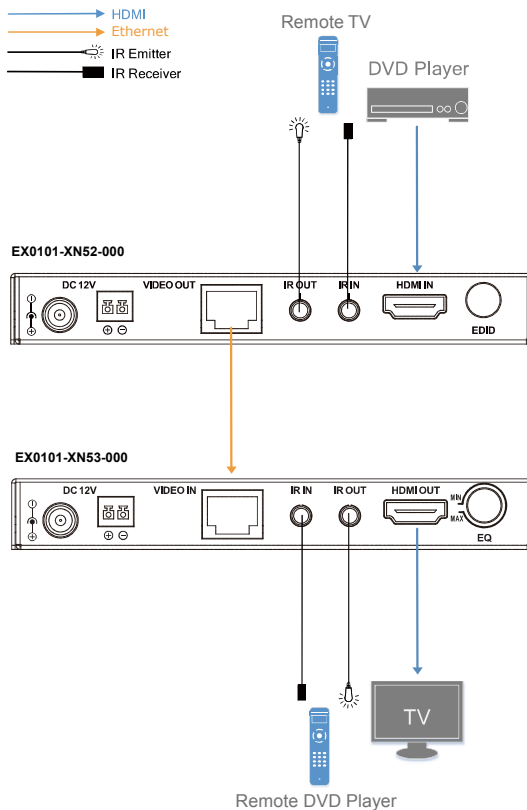
Rear Panel



ID	Name	Description
1	Power 1	12V 0.5A DC power supply input
2	Power 2	Connect to 3.5mm phoenix male connectors, 12V 0.5A
3	VIDEO IN	RJ45 port
4	IR IN	Connects to an IR receiver (30-50KHz)
5	IR OUT	Connects to an IR emitter
6	HDMI OUT	Connects to an HDMI sink
7	EQ	Equalization. The EQ value is up to the cable length.

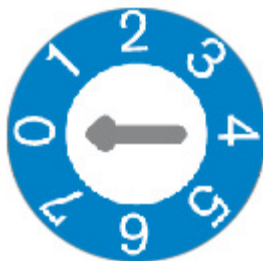
Hardware Installation

1. Connect HDMI source (such as a DVD player) to EX0101-XN52-000.
2. Connect EX0101-XN52-000 and EX0101-XN53-000 with a Cat5e cable.
3. Connect HDMI sink (such as HD-LCD) to EX0101-XN53-000.
4. Connect the IR receiver unit into EX0101-XN52-000 IR IN, connect the IR emitter unit into EX0101-XN53-000 IR OUT.
5. Power on all the devices.



DIP Switch Description

Transmitter



Position	Functions
0 (default)	1080P stereo
1	1080p 5.1
2	EDID Copy Mode (Copy EDID from display)
3	1080i stereo
4	1080p stereo Long Cable mode (LC mode)
5	1080p 5.1 LC mode
6	EDID Copy Mode LC mode
7	1080i stereo LC mode

Receiver



Occasionally, the installation environment, such as the distance between source and sink may be a factor in the perfect transmission and reception of a signal. The receiver can be further fine-turned depending on the length of Cat5e/6 cable used for optimum performance.

Position	Functions
0 to 1	0-10m transmission distance
2 to 5	10-30m transmission distance. The default value is 4.
6 to 7	30-40m transmission distance
8 to F	Reserved

Note:

This table is for your reference, the impedance of the cable may affect the performance as well.

Troubleshooting

1. No image

- Check all devices are powered on
- A picture is achieved when connecting the source to the sink directly
- Check the cables are qualified and properly connected
- Check the EQ value

2. The status indicators are off on transmitter and receiver.

- Check all devices are powered on
- Check the cables are qualified and properly connected
- Check the source output is normal

Product Service

Maintenance

Clean this unit with a soft, dry cloth. Never use alcohol, paint thinner or benzine to clean this unit.

Provided Service

1. **Damage Requiring service:** The unit should be serviced by qualified service personnel if:
 - The DC power supply cord or AC adapter has been damaged;
 - Objects or liquids have gotten into the unit;
 - The unit has been exposed to rain;
 - The unit does not operate normally or exhibits a marked change in performance;
 - The unit has been dropped or the cabinet damaged.
2. **Servicing Personnel:** Do not attempt to service the unit beyond that described in these operating instructions. Refer all other servicing to authorized servicing personnel.
3. **Replacement parts:** When parts need replacing ensure the service uses parts specified by the manufacturer or parts that have the same characteristics as the original parts. Unauthorized substitutes may result in fire, electric shock, or other hazards.
4. **Safety check:** After repairs or service, ask the service to perform safety checks to confirm that the unit is in proper working condition.

Mail-In Service

When shipping the unit, carefully pack and send it prepaid, adequately insured and preferably in the original carton. Include a letter detailing the complaint and provide a daytime phone and/or email address where you can be reached.

If repair is needed during the limited warranty period the purchaser will be required to furnish a sales receipt/proof of purchase indicating date of purchase, amount paid and place of purchase. Customer will be charged for the repair of any unit received without such proof of purchase.

Warranty

If your product does not work properly because of a defect in materials or workmanship, Grandbeing Company (referred to as “the warrantor”) will, for the length of the period indicated as below, (Parts (1) Year, Labor(90) Days) which starts with the date of original purchase (“Limited Warranty period”), at its option either (a) repair your product with new or refurbished parts, or (b) replace it with a new or a refurbished product. The decision to repair or replace will be made by the warrantor.

During the “Labor” Limited Warranty period there will be no charge for labor. During the “Parts” warranty period, there will be no charge for parts. You must mail-in your product during the warranty period. This Limited Warranty is extended only to the original purchaser and only covers product purchased as new. A purchase receipt or other proof of original purchase date is required for Limited Warranty service.

Warranty Limits and Exclusions

- 1. This Limited Warranty ONLY COVERS failures due to defects in materials or workmanship, and DOES NOT COVER normal wear and tear or cosmetic damage.** The Limited Warranty ALSO DOES NOT COVER damages which occurred in shipment, or failures which are caused by products not supplied by the warrantor, or failures which result from accidents, misuse, abuse, neglect, mishandling, misapplication, alteration, faulty installation, set-up adjustments, maladjustment of consumer controls, improper maintenance, power line surge, lightning damage, modification, or service by anyone other than a Factory Service Center or other Authorized

Service, or damage that is attributable to acts of God.

2. **There are no express warranties except as listed under “limited warranty coverage”. The warrantor is not liable for incidental or consequential damages resulting from the use of this product, or arising out of any breach of this warranty.** (As examples, this excludes damages for lost time, cost of having someone remove or re-install an installed unit if applicable, travel to and from the service location, loss of or damage to media or images, data or other recorded content. The items listed are not exclusive, but are for illustration only.)
3. **Parts and service, which are not covered by this limited warranty, are your responsibility.**

Glossary

Acronym	Complete Term
DIP	Dual In-line Package
DTS	Digital Theatre Systems
DVI	Digital Visual Interface
EDID	Extended Display Identification Data
EQ	Equalization
HD	High Definition
HDMI	High Definition Multimedia Interface
IR	Infrared

Appendix

The following figure shows the special Cat5e/6 cable, it has a RJ45 connector and a phoenix male connector on both end.



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